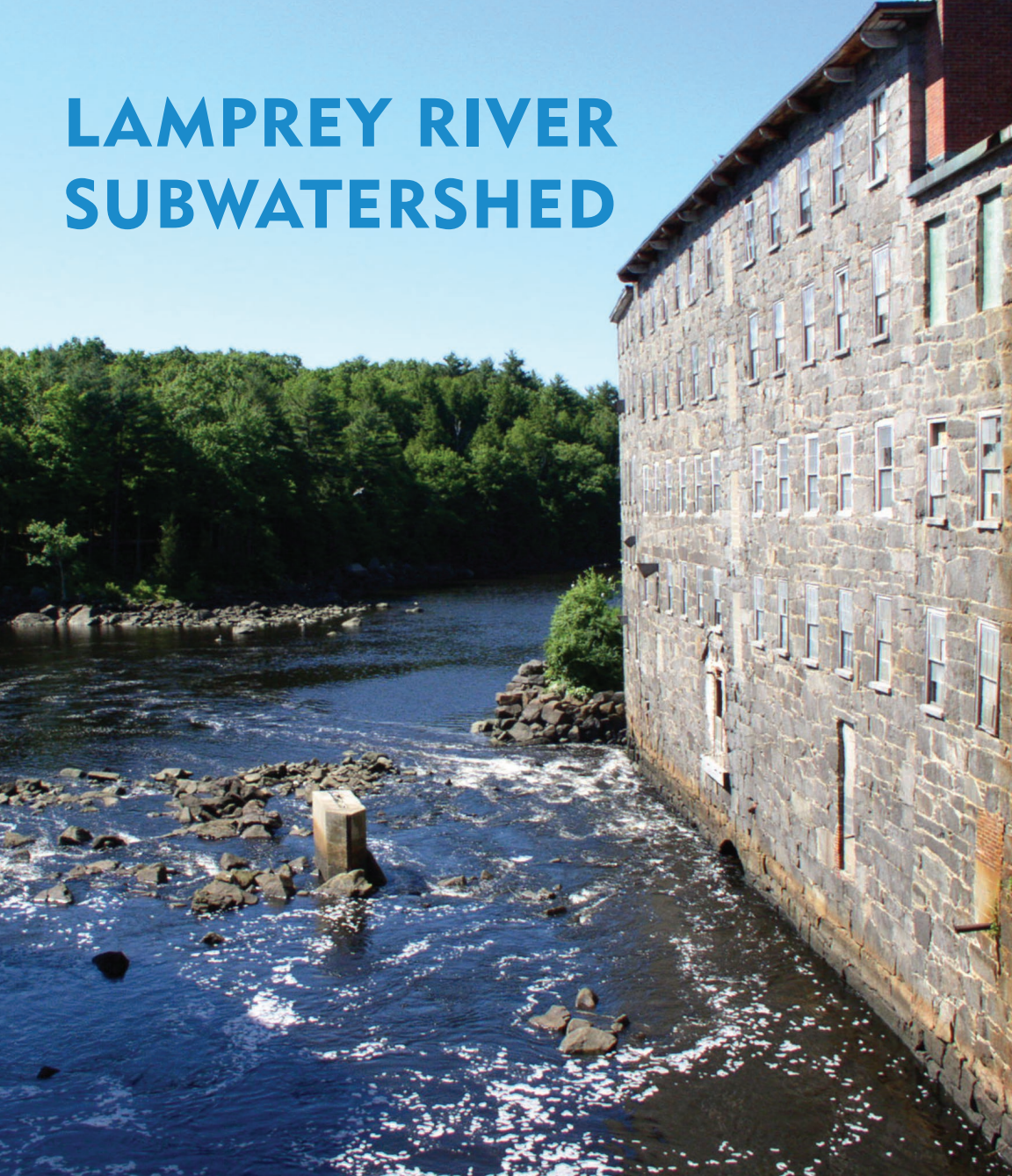


LAMPREY RIVER SUBWATERSHED



PISCATAQUA REGION ENVIRONMENTAL PLANNING ASSESSMENT 2015

Lamprey River Subwatershed, including:

Candia, Deerfield, Epping, Newmarket,
Northwood, Nottingham, Raymond



PREP

Piscataqua Region Estuaries Partnership

www.prepestuaries.org

Lamprey River Subwatershed

INTRODUCTION

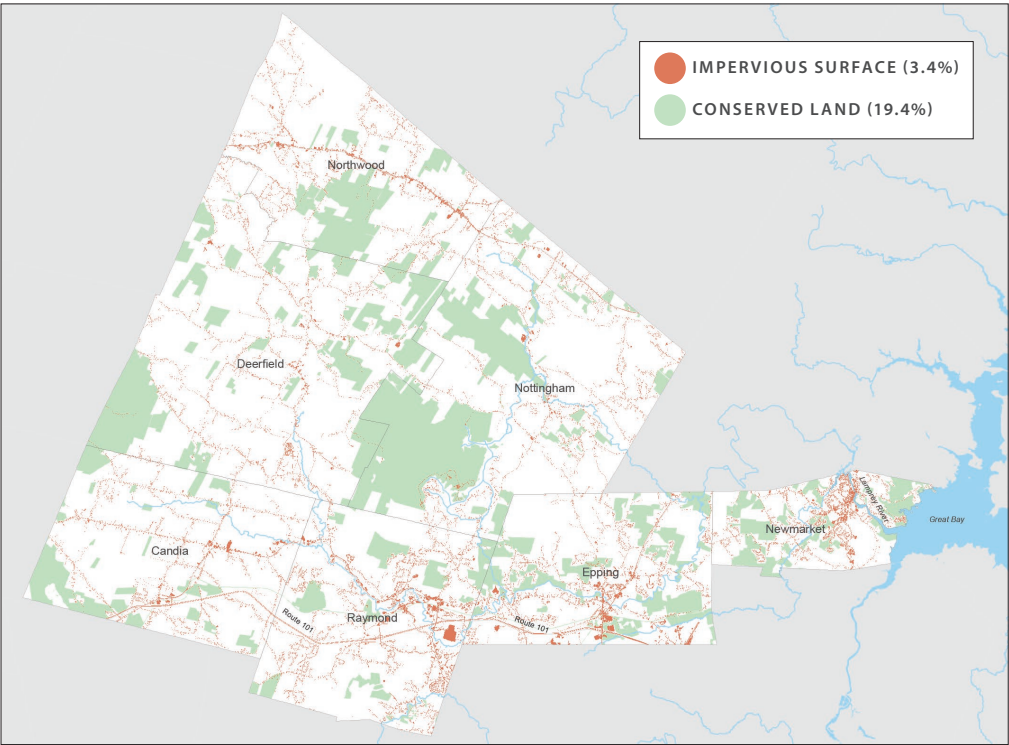
The Lamprey River Watershed consists of six larger rivers, totaling 87.7 miles. These rivers flow south and east converging in the Lamprey River main stem and empty into the Great Bay. A large percentage of the land in the river’s corridor is undeveloped, creating extensive wildlife habitat and offering picturesque scenery. The Lamprey River is the largest tributary to the Great Bay Estuary. Due to the river’s valued resources the lower portion is recognized as Wild and Scenic by the National Park Service, one of only two rivers in New Hampshire to receive such designation. The river network within the Lamprey

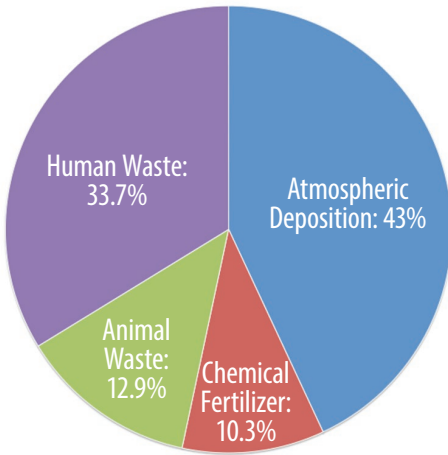
River offers both reserve water supplies for adjoining towns and an irreplaceable habitat for many endangered species (NHDES 2011) (LRWA 2015).

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Balance is key. PREP recommends no more than 10% impervious cover and no less than 20% conservation land in a watershed.





Data source: NHDES Great Bay Nitrogen Non-Point Source Study, 2014. Nitrogen measured in pounds per year.

Nitrogen Loading

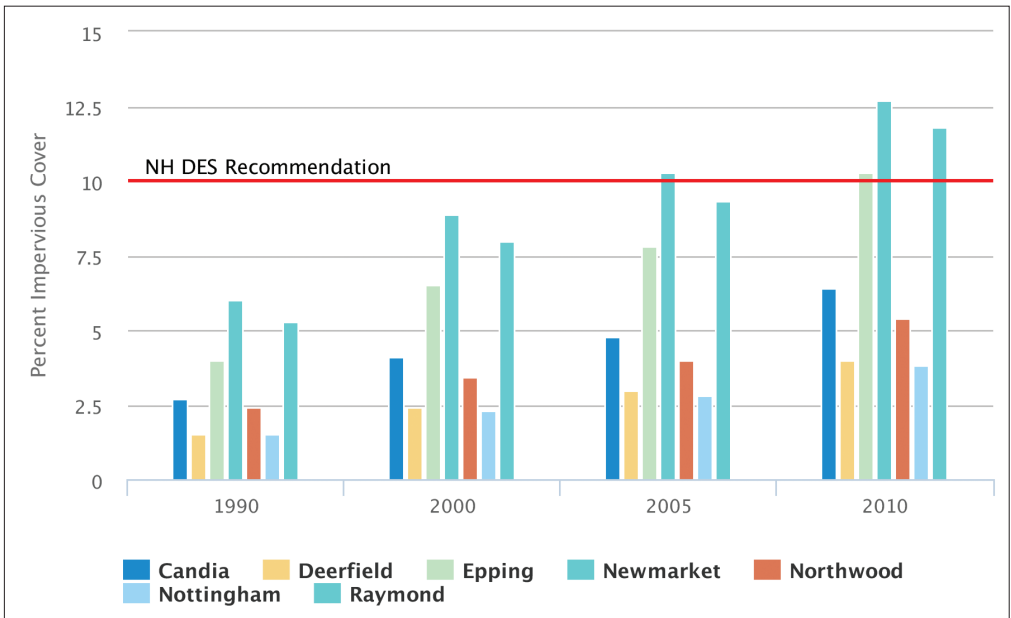
PRIMARY CONTRIBUTOR: ATMOSPHERIC DEPOSITION contributes 111,775.1 pounds of nitrogen per year to the Lamprey River Watershed, and nearly 60 percent—or 66,743.8 pounds per year—is deposited on natural vegetation within the watershed. The remaining 40 percent is split between disconnected impervious areas, lakes and rivers, connected impervious areas, estuarine waters, agriculture, residential lawns, and golf courses, parks, and sports fields in descending order.

SECOND CONTRIBUTOR: HUMAN WASTE contributes 87,618.2 pounds of nitrogen per year to the Lamprey River Watershed, and roughly 92 percent—or 80,644.3 pounds per year—comes from septic systems located greater than 200 meters from a waterway. The remaining 8 percent comes from septic systems within 200 meters of a waterway.

For more info please visit www.PREstuarines.org/PREPA

Impervious Cover

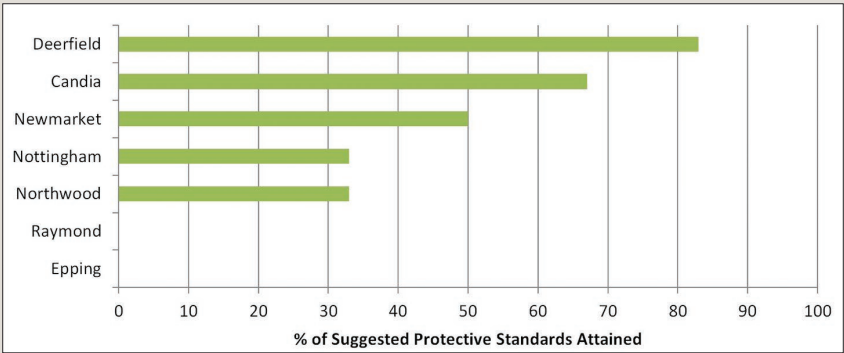
An overall trend shows an increase in impervious cover for each of the seven towns from 1990 to 2010. This trend is consistent with the remaining subwatersheds in the Great Bay Watershed. As of 2010, Newmarket (12.7%), Raymond (11.8%) and Epping (10.3%) exceed the NHDES maximum 10% impervious cover.



Report Cards

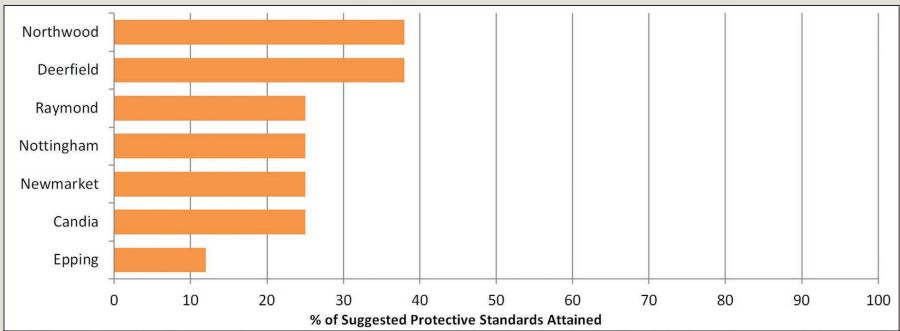
Freshwater Wetland Protection

- 1. Designated “prime” wetlands (NH) or “significant” wetlands (ME), and adopted local regulations to protect these wetlands?
- 2. Regulations that offer explicit protection of vernal pools?
- 3. No soil disturbance or No Vegetation Disturbance buffer requirement that is ≥ 100 feet?
- 4. Septic Setback requirement that is ≥ 100 feet?
- 5. Building Setback requirement that is ≥ 100 feet?
- 6. Fertilizer Application Setback requirement that is ≥ 100 feet?



Stormwater Management

- 1. Stormwater management regulations?
- 2. Less than or equal to 9% Impervious Cover?
- 3. Minimum area of soil disturbance that “triggers” application of the municipality’s stormwater management regulations less than or equal to 20,000 sq. ft.?
- 4. Cap of 10% effective impervious cover (EIC) for new development in residentially zoned lots of 1 acre or more?
- 5. Existing regulations require the use of Low Impact Development (LID) techniques to the maximum extent practicable for new/re-development?
- 6. Stormwater management regulations reflect the minimum design criteria for water quality volume/ flow (WQV/WQF), groundwater recharge volume (GRV), and peak flow control defined in the NH Stormwater Management Volume 2?



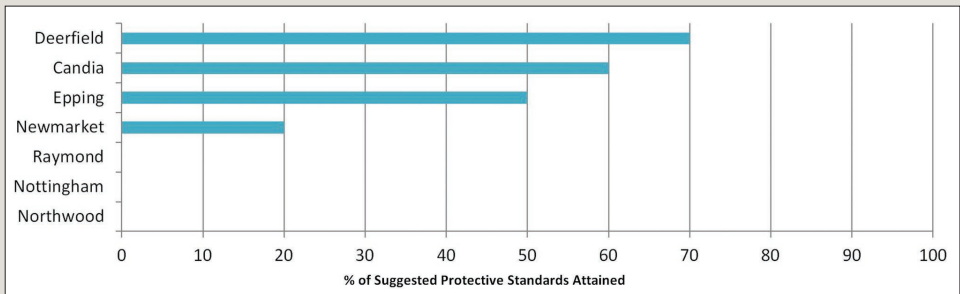
Shoreland Buffers and Setbacks

2nd – 4th Order Streams and Lakes/Ponds

1. No Vegetation Disturbance or Managed buffer requirement that is ≥ 100 feet?
2. Septic Setback requirement that is ≥ 100 feet?
3. Building Setback requirement that is ≥ 100 feet?
4. Fertilizer Application Setback requirement that is ≥ 100 feet?

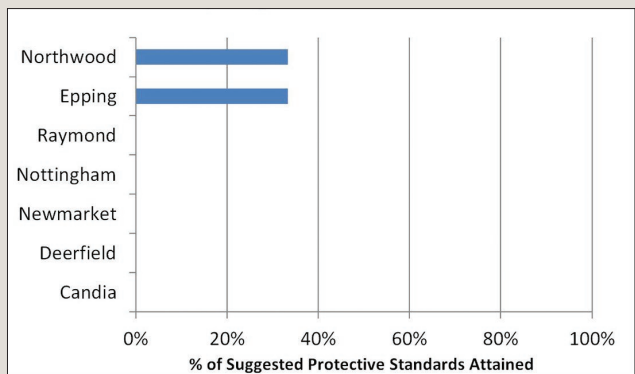
1st Order Streams

5. No Vegetation Disturbance or Managed buffer requirement that is ≥ 75 feet?
6. Septic Setback requirement that is ≥ 100 feet?
7. Building Setback requirement that is ≥ 100 feet?
8. Fertilizer Application Setback requirement that is ≥ 100 feet?



Climate Change

1. Has the municipality completed some form of climate change vulnerability assessment?
2. Has the municipality completed some form of climate change adaptation planning effort?
3. Has the municipality adopted regulatory changes intended to reduce the municipality's vulnerability to potential climate change impacts?



To explore specific data,
please visit www.PREPestuaries.org/PREPA

Actions by Community

The 2015 PREPA provides a comprehensive review of the current state of municipal regulations in the 52 communities in the Piscataqua Region watershed. Although most communities haven taken some steps to protect their natural resources, more work is needed by **every community** in the Lamprey watershed.

Community Summary For all of the communities located in the Lamprey River Subwatershed, the priority should be placed on adopting or increasing buffers for all waterbodies. Additionally steps need to be taken to increase setbacks for both septic and primary setback to insure water quality and shoreland protection.

CANDIA			
1 Increase buffers on 1st-4th order streams to 100'	2 Increase setback for septic systems to 100'	3 Adopt mandatory conservation subdivision regulations	4 Adopt model stormwater management regulations
DEERFIELD			
1 Increase setback for primary structures to 100' on streams	2 Adopt no soil disturbance regulations abutting wetlands	3 Adopt model stormwater regulations	4 Complete a climate vulnerability assessment
EPPING			
1 Increase wetland setback for septic and structures to 100'	2 Adopt 100' buffers on 1st-4th order streams	3 Adopt mandatory conservation subdivision regulations	4 Complete a climate vulnerability assessment
NEWMARKET			
1 Adopt 100' septic and structure setback for waterbodies	2 Increase fertilizer application buffer to 100'	3 Adopt mandatory conservation subdivision regulations	4 Complete a climate vulnerability assessment

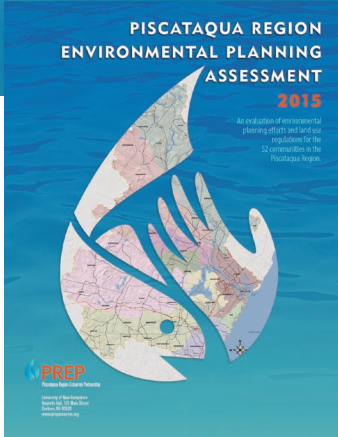
RECOMMENDED ACTIONS

The actions table is not meant to be exhaustive but does reflect a menu of prioritized recommendations for communities. Actions are directly related to the questions found on the PREPA assessment forms and reflects both regulatory and non-regulatory actions.

- 1 Top Priority Action
- 2 Second Priority Action
- 3 Third Priority Action
- 4 Fourth Priority Action

NORTHWOOD			
1 Adopt buffers on all waterbodies, including wetlands	2 Adopt 100' setbacks for septic and primary structures for all waterbodies	3 Adopt fertilizer application setbacks for all water bodies	4 Adopt model stormwater management regulations
NOTTINGHAM			
1 Adopt buffers on all waterbodies, including wetlands	2 Adopt 100' setbacks for septic and primary structures for all waterbodies	3 Adopt fertilizer application setbacks for all water bodies	4 Adopt model stormwater management regulations
RAYMOND			
1 Increase buffers to 100' for all waterbodies	2 Increase setback for septic and primary structures to 100'	3 Increase fertilizer application setback to 100'	4 Work with landowners to conserve land

Resources for implementing these actions can be found on the website www.PREPestuaries.org or contacting PREP at prep.assistance@unh.edu



The full PREPA report features deeper explorations of the data region-wide and gives greater context to the issues.

TAKE ACTION

Resources for implementing these actions can be found on the website

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